

FIG. 1 ← RANK →

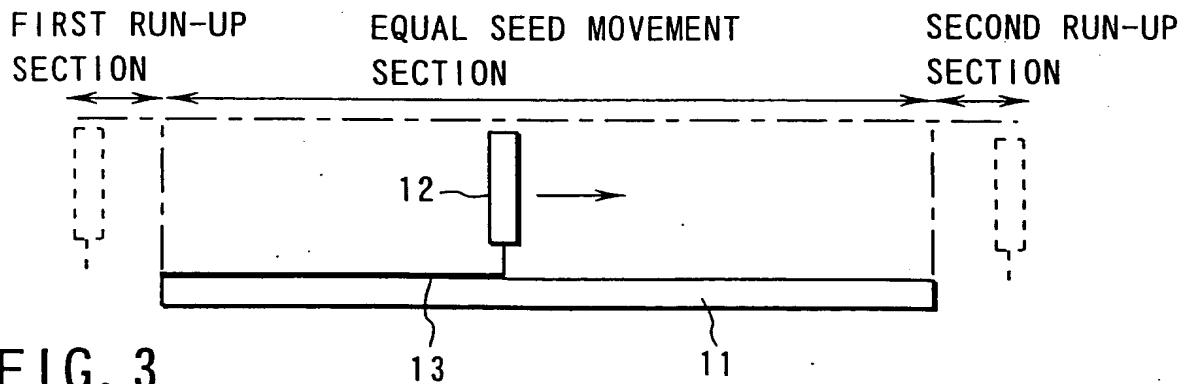
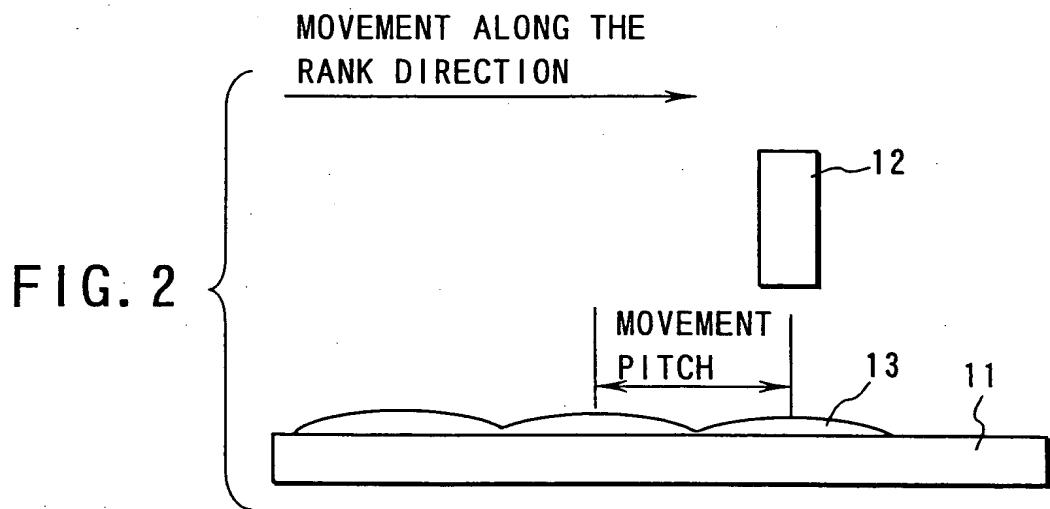
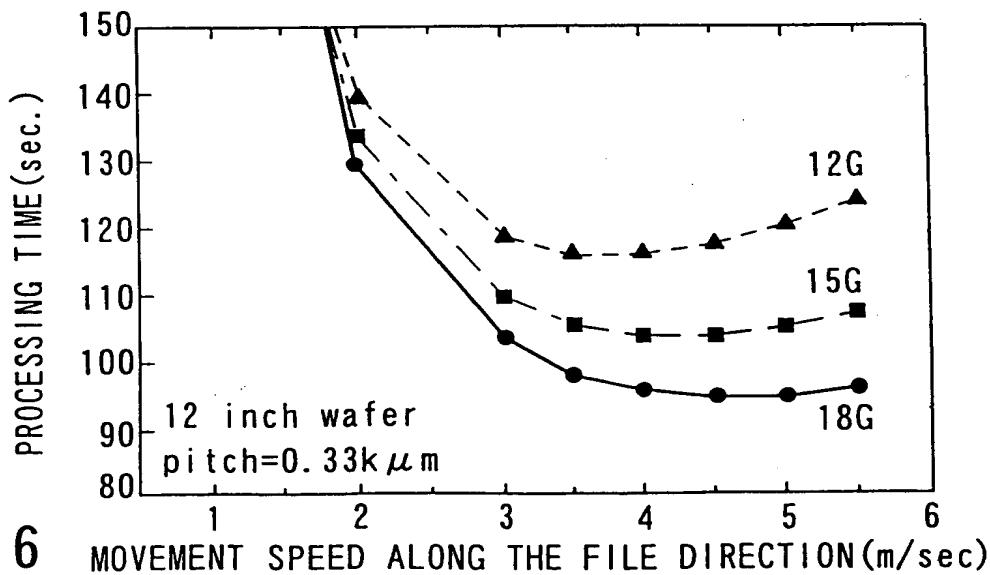
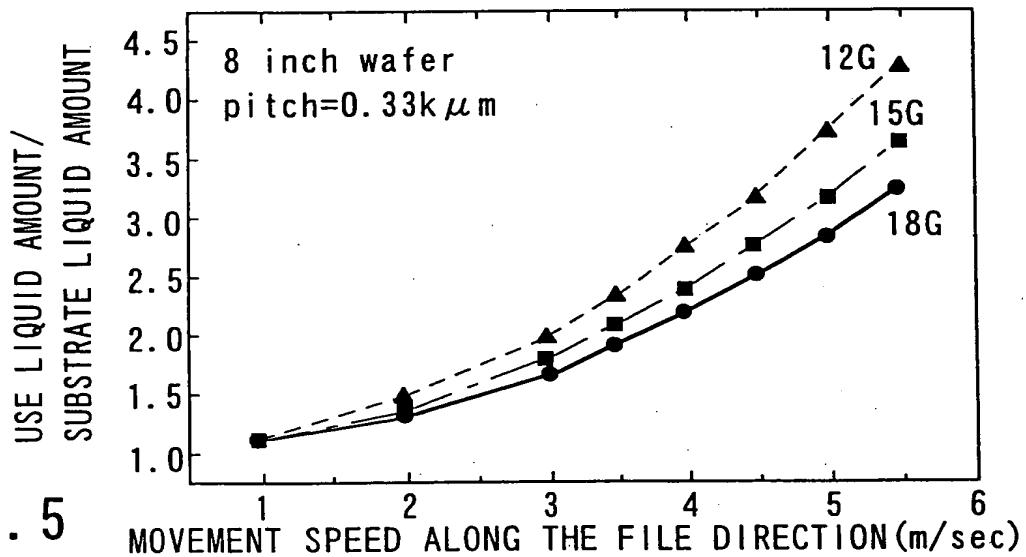
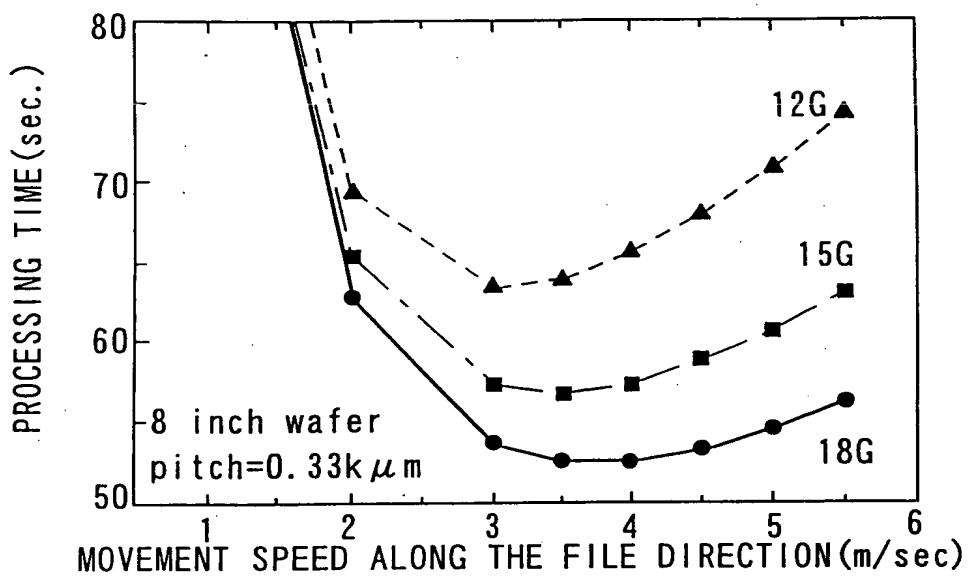


FIG. 3 13 11



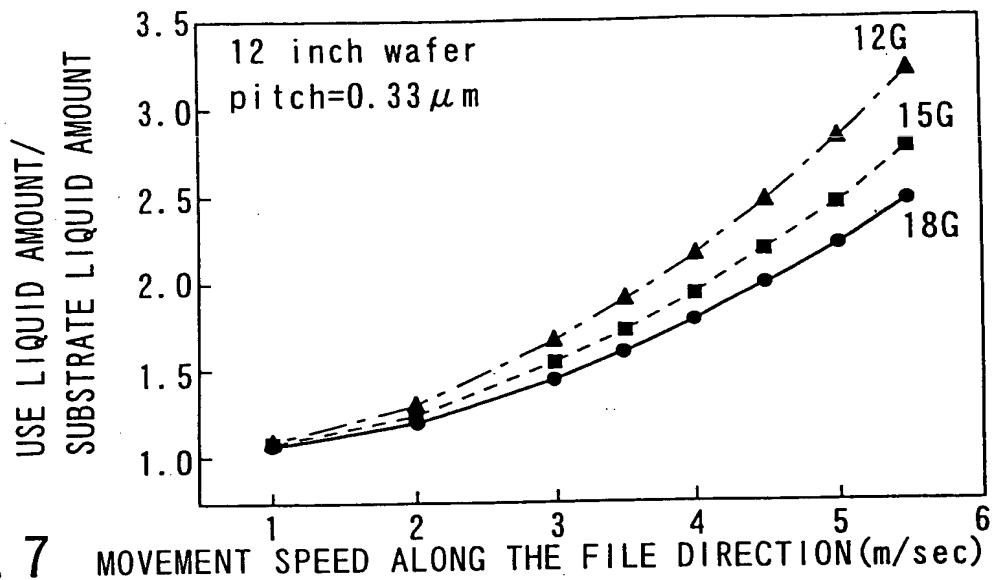


FIG. 7 MOVEMENT SPEED ALONG THE FILE DIRECTION (m/sec)

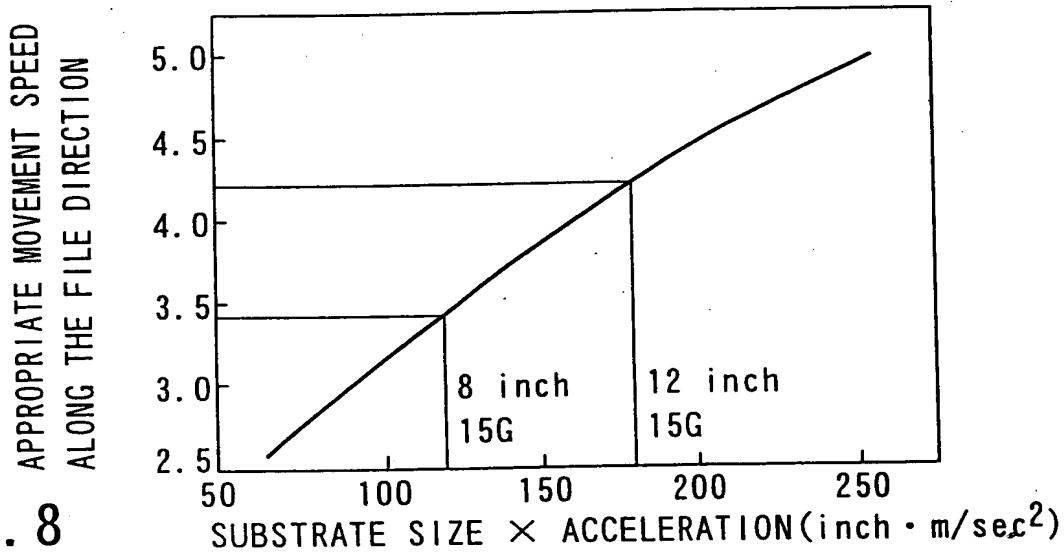


FIG. 8 APPROPRIATE MOVEMENT SPEED ALONG THE FILE DIRECTION

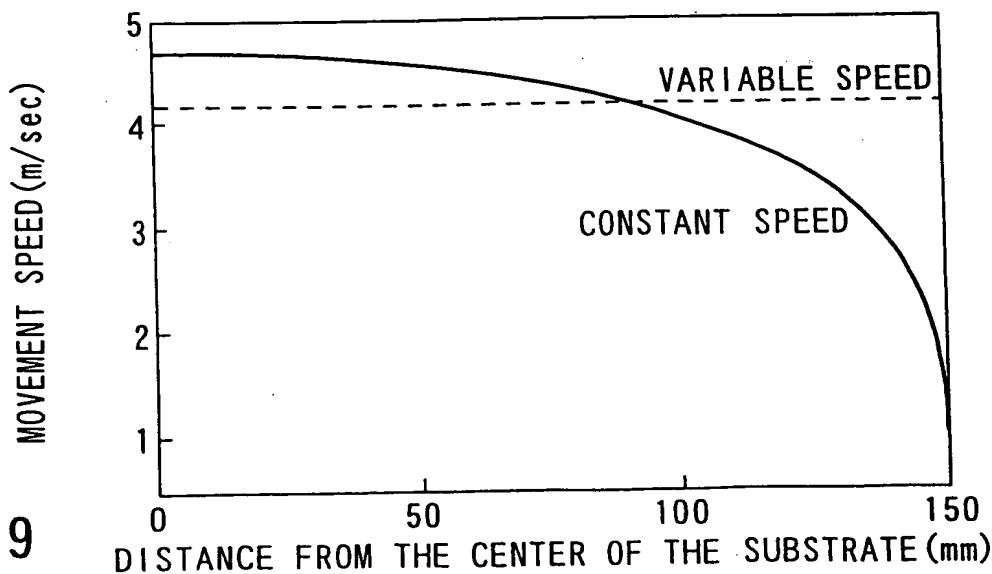


FIG. 9 MOVEMENT SPEED (m/sec)

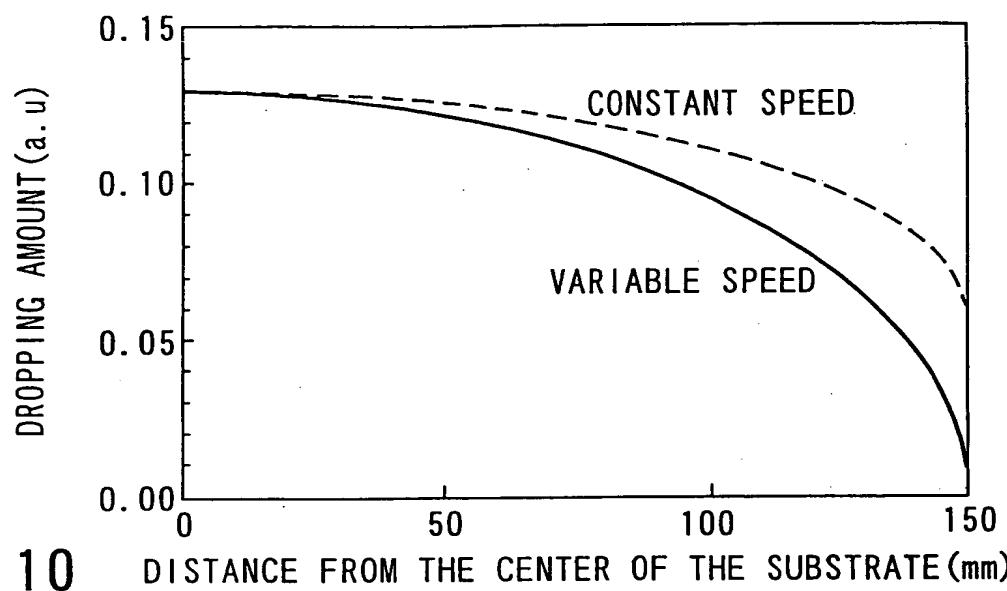


FIG. 10 DISTANCE FROM THE CENTER OF THE SUBSTRATE (mm)

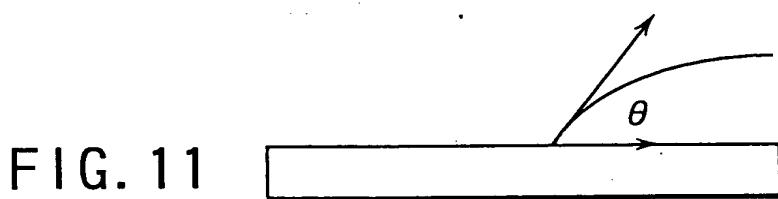


FIG. 11

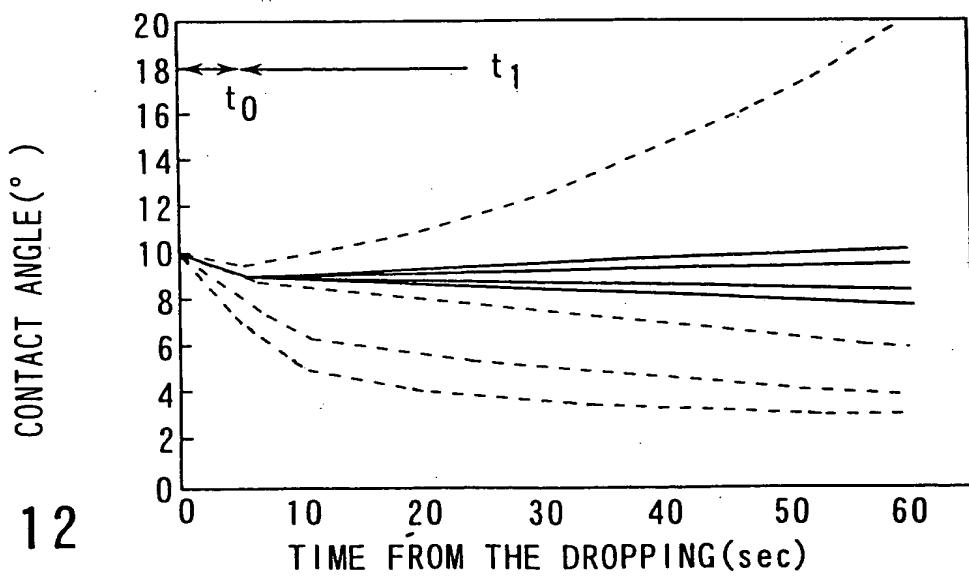


FIG. 12

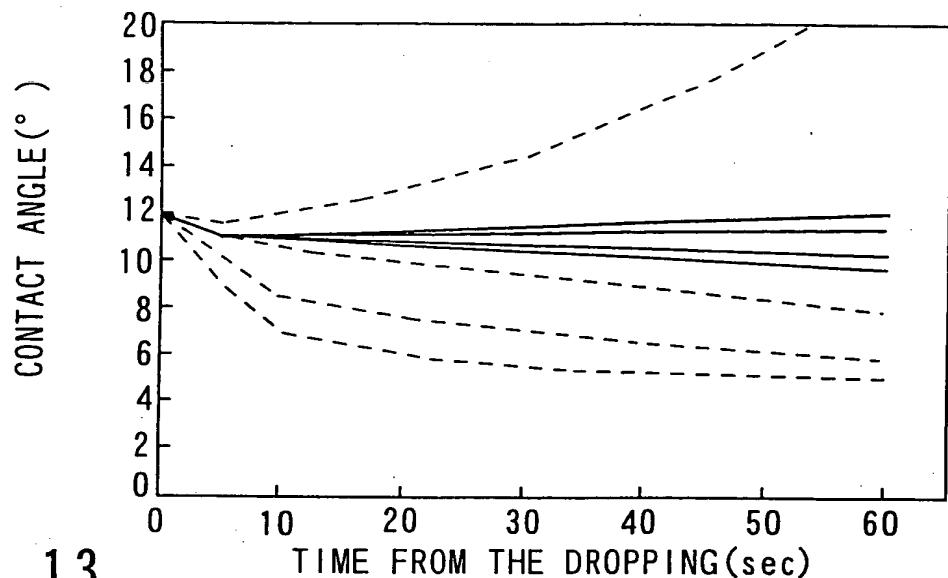


FIG. 13

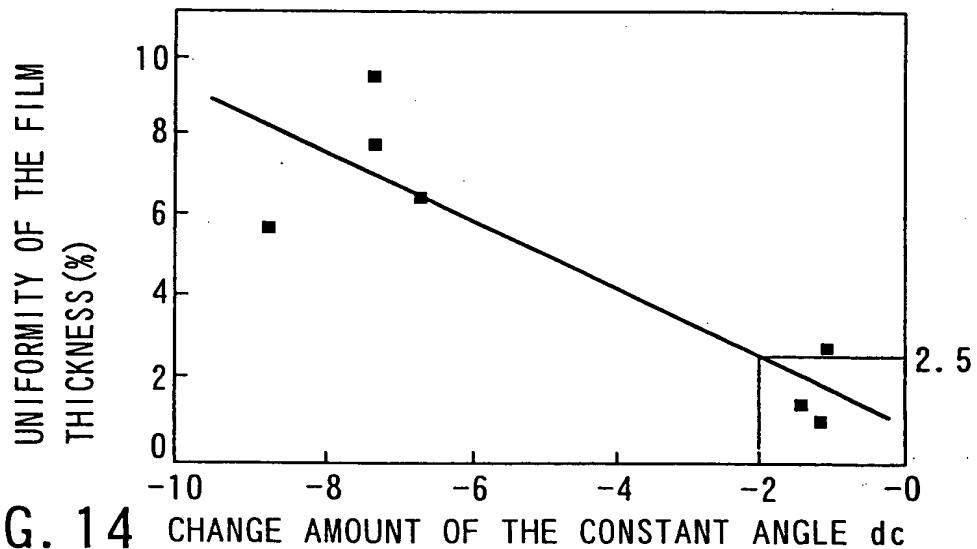
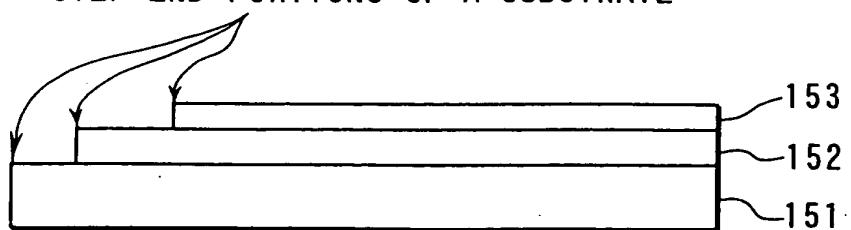


FIG. 14 CHANGE AMOUNT OF THE CONSTANT ANGLE d

STEP END PORTIONS OF A SUBSTRATE

FIG. 15



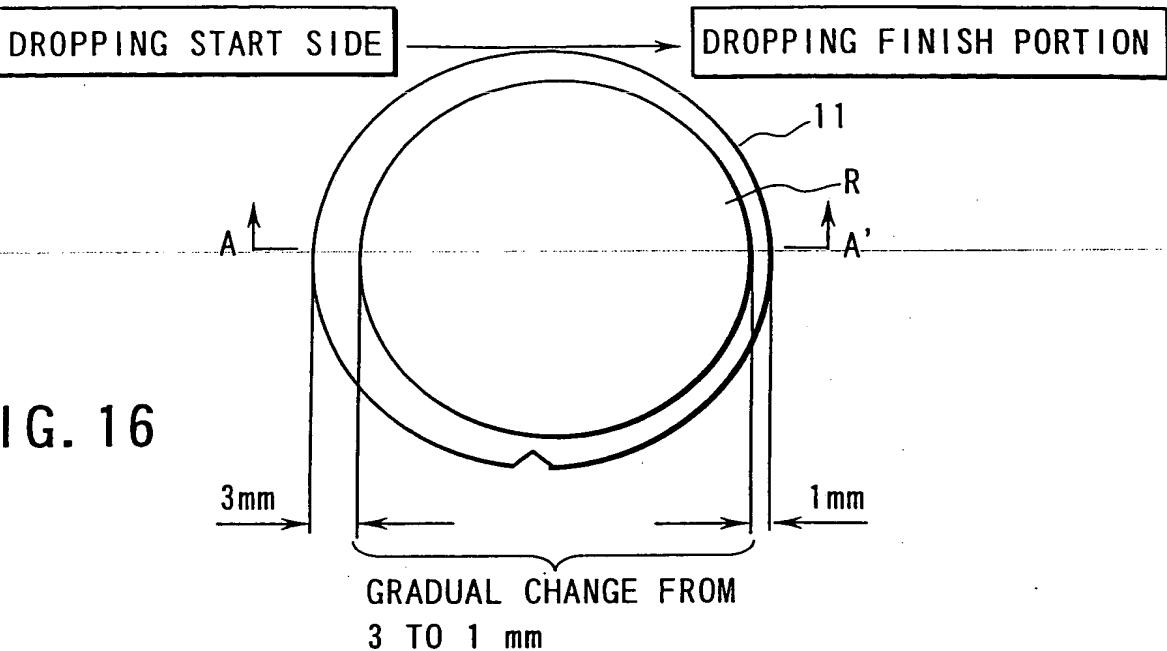


FIG. 16

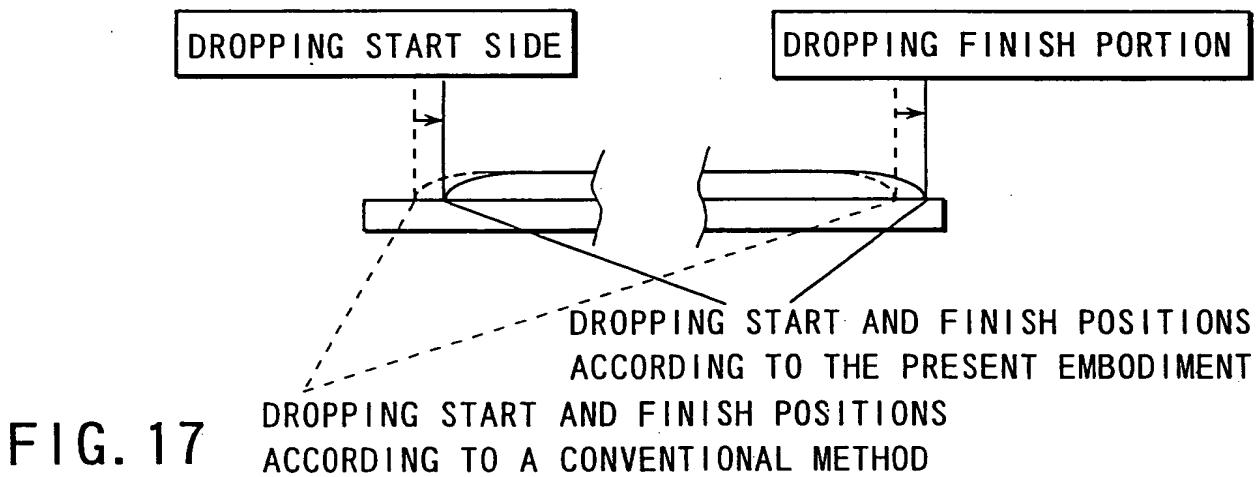


FIG. 17

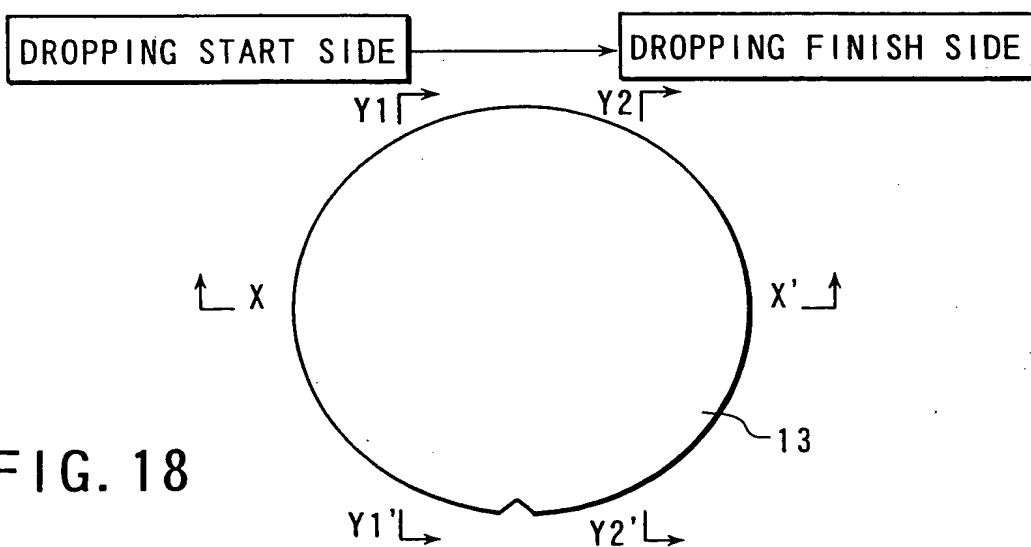


FIG. 18

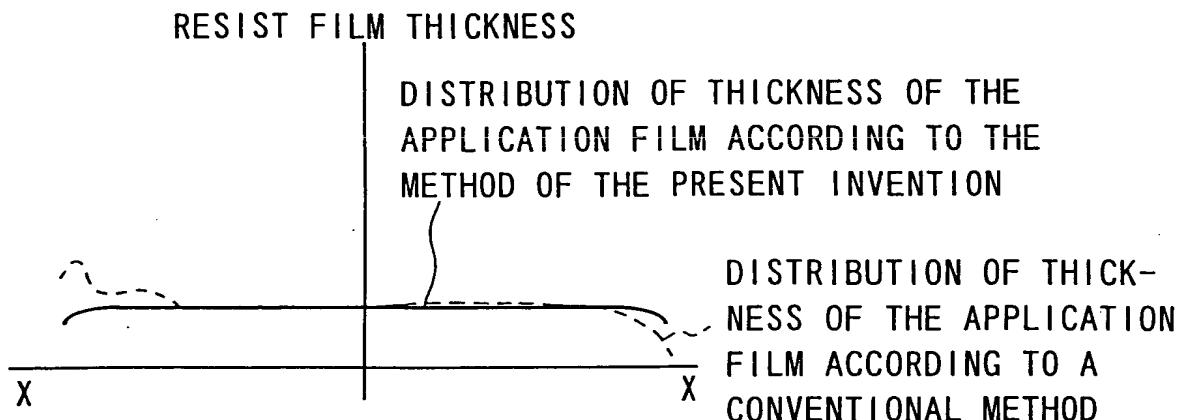


FIG. 19A

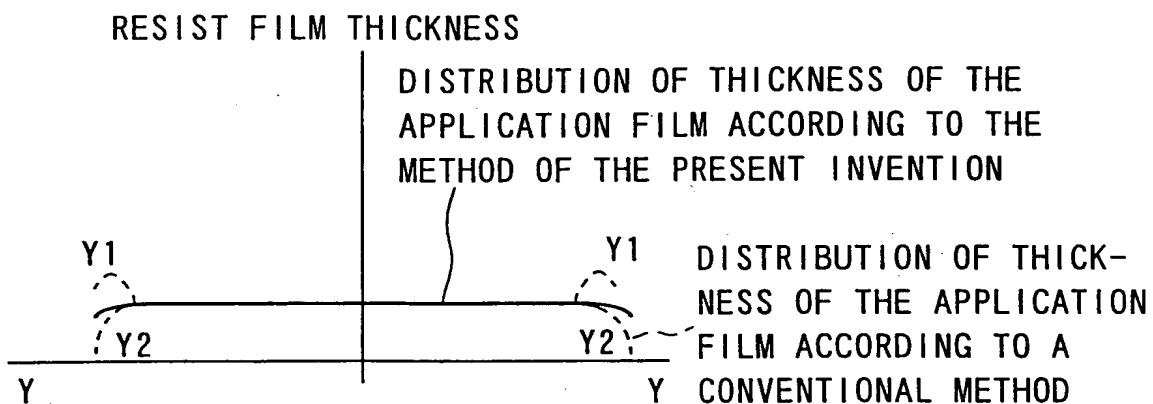
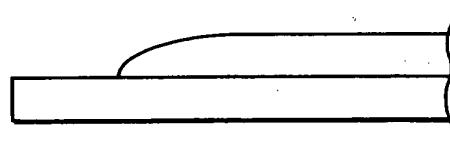


FIG. 19B

FIG. 20A



THE LIQUID IS STOPPED AT THE END OF THE SUBSTRATE, AND THE LIQUID SWELLS

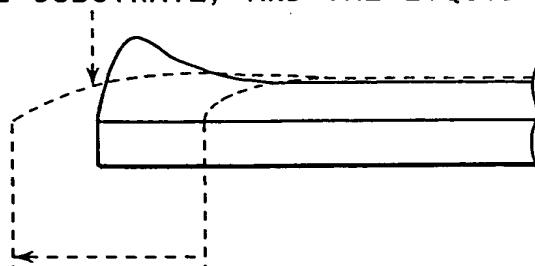


FIG. 20B

FLOWING DISTANCE IN THE CASE THAT THERE IS NO END OF THE SUBSTRATE

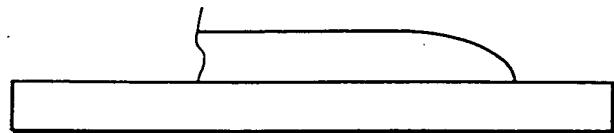


FIG. 21A

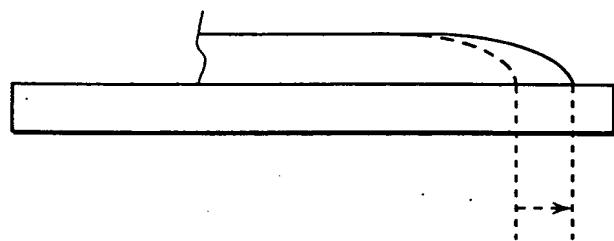
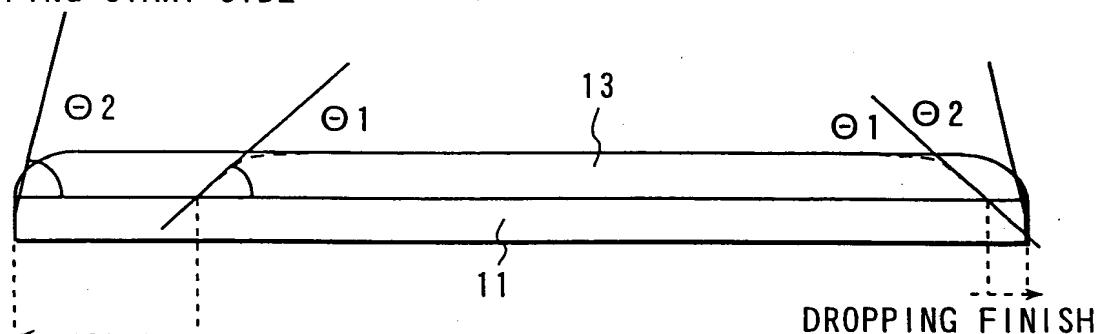


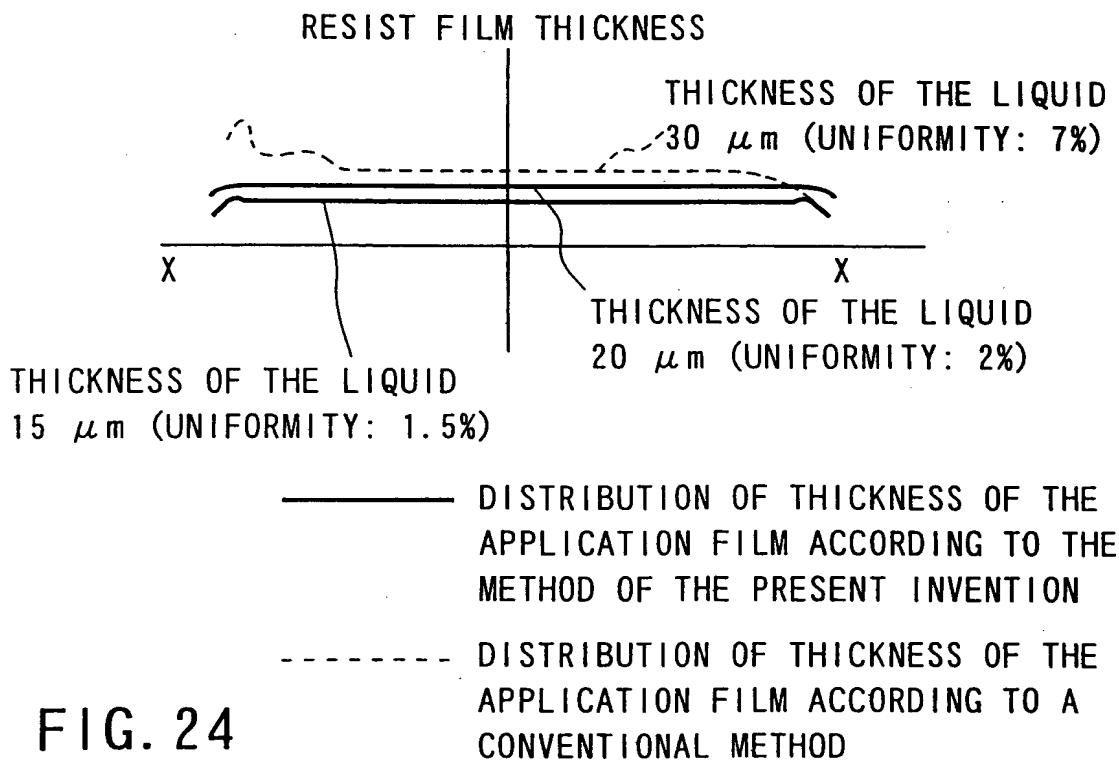
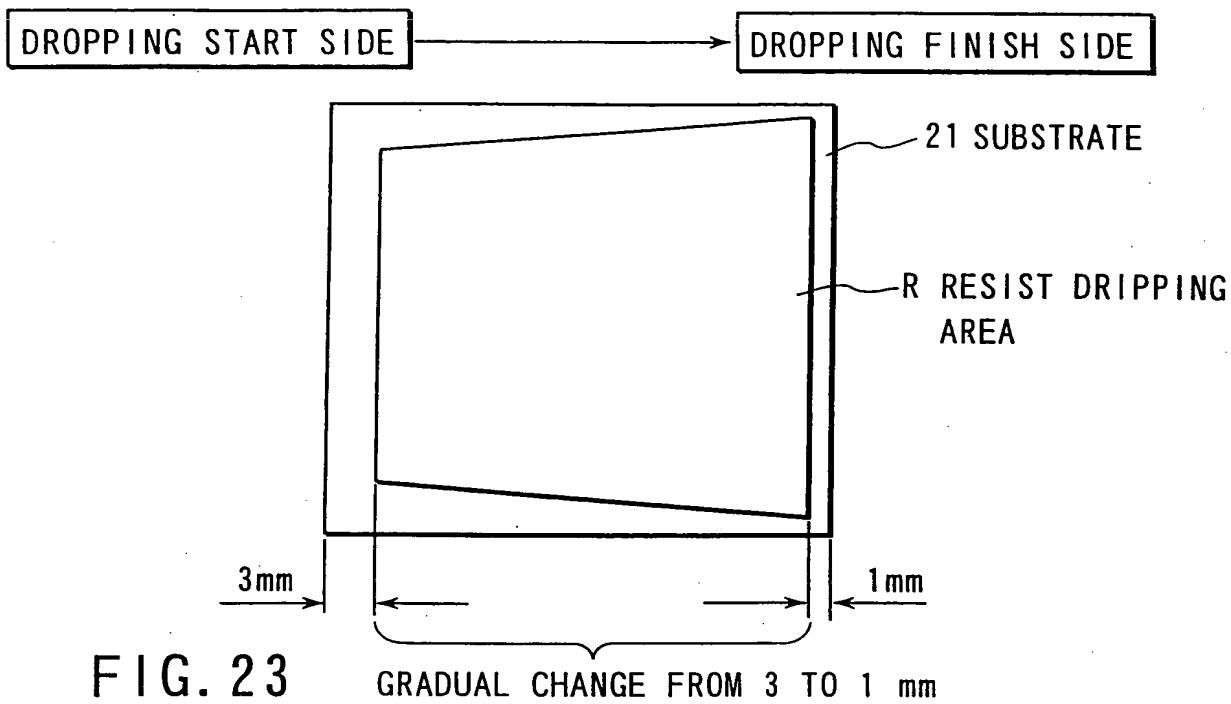
FIG. 21B

DROPPING START SIDE



THE CONTACT ANGLE RISES WHEN THE END
OF THE LIQUID FILM REACHED THE END
OF THE SUBSTRATE

FIG. 22



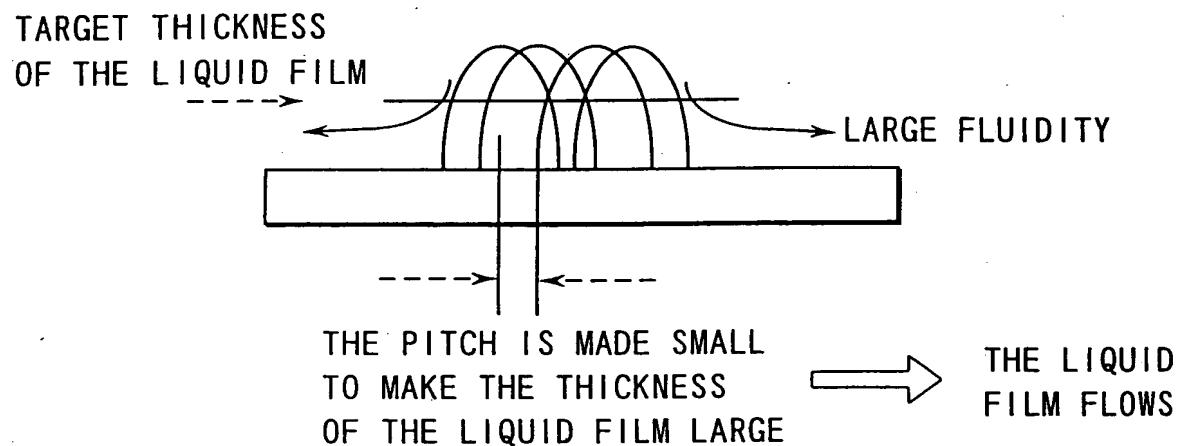


FIG. 25A

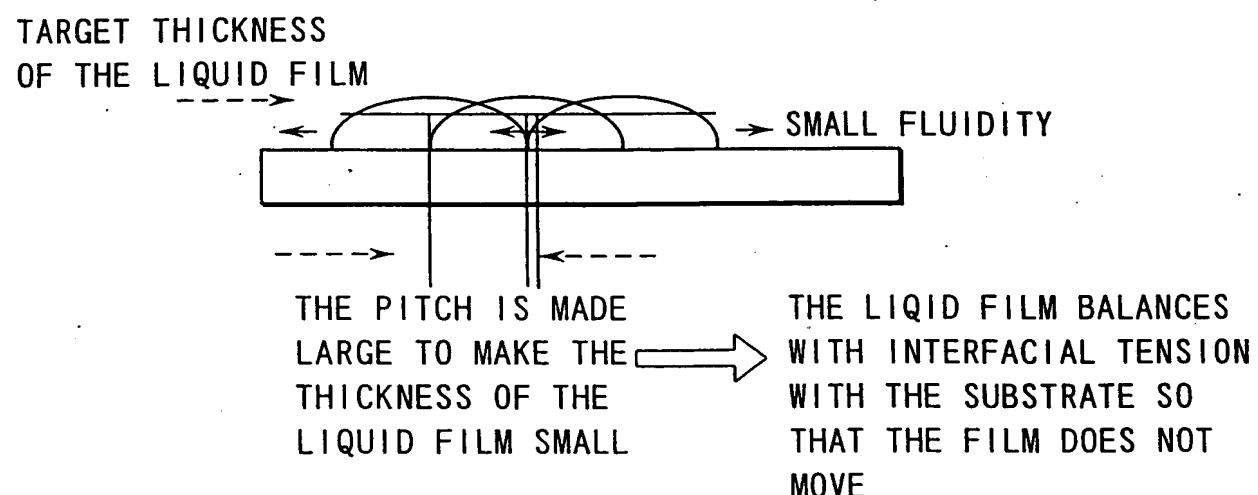


FIG. 25B